

IX.4.2B-PDBINDEX PREPROCESSOR DATA BASE FILE PDBINDEX

Purpose

File PDBINDEX contains information about stations defined in the Preprocessor Data Base (PPDB).

The information is used to access the station data and includes control information for dates and record pointers for the daily data types.

Description

ATTRIBUTES: fixed length 64 byte binary records

RECORD STRUCTURE:

<u>Variable</u>	<u>Type</u>	<u>Dimension</u>	<u>Word Position</u>	<u>Description</u>
The first record is the File Control Record.				
NWRDS	I*4	1	1	Number of words in record
LRECL1	I*4	1	2	Logical record length of daily data files
LRECL2	I*4	1	3	Logical record length of RRS file
LRECL3	I*4	1	4	Logical record length of Index file
MAXTYP	I*4	1	5	Maximum number of daily data types
NUMTYP	I*4	1	6	Actual number of daily data types
TYPREC	I*4	1	7	Record of the first Data Type Directory record
NHASHR	I*4	1	8	Number of I*2 words in hash records
H8CREC	I*4	1	9	Record number of the first character hash record
HINTRC	I*4	1	10	Record number of the first integer hash record
INFREC	I*4	1	11	Record number of the first Station Information record

<u>Variable</u>	<u>Type</u>	<u>Dimension</u>	<u>Word Position</u>	<u>Description</u>
				(first record used is INFREC+1)
MFILE	I*4	1	12	Maximum records in file
LFILE	I*4	1	13	Last used record in file
LURRS	I*4	1	14	Maximum days between last day of observed data and first day of future data
MAXDDF	I*4	1	15	Maximum number of daily data files
NUMDDF	I*4	1	16	Number of daily data files used

The next group of records are the data file information records.

Words 1 thru 4 are repeated NUMDDF times:

MDDFRC	I*4	1	1	Maximum records in daily data file
LDDFRC	I*4	1	2	Last record used in daily data file
	I*4	2	3-4	Unused

The next group of records are the Daily Data Type Directory records.

NWRDS	I*2	1	1	Number of words in record
DTYPE	A4	1	2-3	Data type
LUFILE	I*2	1	4	Logical unit of file in which data is stored
NPNTRS	I*2	1	5	See note <u>1</u> /
NDATA	I*2	1	6	Number of data values for each station (can vary for data types PPVR and TAVR)
MAXDAY	I*2	1	7	Maximum days of data
EDATE	I*4	1	8-9	Julian day of earliest data
ECRECN	I*2	1	10	Record number of earliest data (not used for TF24)
LDATE	I*4	1	11-12	Julian day of latest data (not

<u>Variable</u>	<u>Type</u>	<u>Dimension</u>	<u>Word Position</u>	<u>Description</u>
				used for TF24)
LDRECN	I*2	1	13	Record number of latest data
PNTR	I*2	1	14	Record number of pointer record
DATAR1	I*2	1	15	Record number of first data record
MAXSTA	I*2	1	16	Maximum number of stations
NUMSTA	I*2	1	17	Number of stations defined
LSTPTR	I*2	1	18	Last used word for pointer record
LSTDTA	I*2	1	19	Last used word in data record
NSTATS	I*2	1	20	Number of words of statistics per station for data type
NREC1D	I*2	1	21	Number of data records for one day of data
	I*2	2	22-24	Unused

The next group of records contain the Station Hash Indexes. 2/

IPDHSC	I*2	NHASHR	1	Record numbers of Station Information records for station character identifiers
IPDHSI	I*2	NHASHR	1	Record numbers of Station Information records for station integer identifiers

The next group of records are the Station Information records. 3/

NWRDS	I*2	1	1	Number of words in record
STAID	A8	1	2-5	Station character identifier
NUMID	I*2	1	6	Station integer identifier
PRMPTR	I*2	1	7	Record number of GENL parameter record in Preprocessor Parametric Data Base
PCPPTR	I*2	1	8	Array location of 24 hour precipitation data <u>4/</u>

<u>Variable</u>	<u>Type</u>	<u>Dimension</u>	<u>Word Position</u>	<u>Description</u>
TMPPTR	I*2	1	9	Array location of 24 hour temperature max/min data <u>4</u> /
NADDTP	I*2	1	10	Number of additional data types
Words 11 thru 13 are repeated NADDTP times.				
ADDDTP	A4	1	11-12	Data type <u>4</u> /
ADTPTR	I*2	1	13	Array location if daily data type or record number of RRS primary data <u>4</u> / <u>5</u> /

The following statistic are stored for stations with 24 hour PCPN data:

BDATE	I*2	2	11+NADDTP*3	Julian day statistics begin
RDATE	I*2	2	13+NADDTP*3	Julian day of most recent report
NDAYS	I*2	1	15+NADDTP*3	Number of days with reports
NTOTAL	I*2	1	16+NADDTP*3	Total number of reports
NZERO	I*2	1	17+NADDTP*3	Number of days that zero precipitation is reported
ACDCP	R*4	1	18+NADDTP*3	Accumulated precipitation
RPTLG	I*2	1	20+NADDTP*3	Largest reported value (stored as value*100)
LDATE	I*2	2	21+NADDTP*3	Julian day of largest reported value
RPT2LG	I*2	1	23+NADDTP*3	Second largest value reported (stored as value*100)
L2DATE	I*2	2	24+NADDTP*3	Julian day of second largest reported value
SMNOZO	I*2	1	26+NADDTP*3	Smallest non-zero report
ACPSQ	R*4	1	27+NADDTP*3	Accumulated precipitation squared

The following word is used for stations that have been redefined:

NWRDSO	I*2	1	NWRDS+1	Number of words in old SIF entry
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Notes:

1/ For data types PP24, PPVR, TAVR, TM24, MDR6, TF24, EA24, PPST, APIG and PG24 the value is the number of pointers.

For data types TX24 and TN24 the value is the indicator for the write data types in read data type TM24.

For data types TFMX and TFMN the value is the indicator for the write data types in read data type TF24.

For data types PP01, PP03, PP06, TA01, TA03 and TA06 the value is the data time interval for the write only types.

For data types TA24, TD24, US24, RC24, RP24 and RI24 the value is the indicator for the write only types in read data type EA24.

For data type PPSR the value is the number of words in the one pointer record needed for this type.

2/ Access to the Station Information records is through a hashing algorithm. The hash can be done using the 8-character station identifier or the user-assigned integer station number. The first set of records stores the hashed indices for the 8-character station identifier. The second set of records stores the hashed indices for the user-assigned integer station number. These hashed indices point to the Station Information record in another part of the file.

3/ The Station Information records contain pointers to the data for each data type reported by a station. For stations with PCPN data they also have room for statistical information.

4/ For Daily data types the value stored is the starting location of the data in the data array returned from the PPDB read daily data routine (RPDDLTY) for the specified data type.

5/ For RRS data types the value stored is the record number of the data in the RRS primary data file.